DIRECT TESTIMONY OF AVADIS TEVANIAN, JR.

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1. The facts recited below are known by me personally except where they were taken from business records, deposition transcripts or other documents provided to me. In such cases, I have indicated the source of those facts.

2. I am the Senior Vice President of Software Engineering for Apple Computer. I am responsible for virtually all the software products developed and sold by Apple.

3. My educational background is in mathematics and computer science. In 1983, I received a Bachelor's Degree in Mathematics from the University of Rochester in New York. I received a Master's Degree in Computer Science in 1985, and a Ph.D. in Computer Science in 1988, both from Carnegie Mellon University. My graduate work and doctoral dissertation focused on the design of computer operating systems.

4. Before joining Apple in 1997, I was Vice President of Engineering at NeXT Software where I was employed for 9 years. I joined Apple when it acquired NeXT in 1997.

5. Shortly after I began at Apple, I had a meeting with a developer who was working on a product that would operate with Apple's highly successful multimedia product. The developer urged that Apple withdraw from the market for multimedia products that ran on Microsoft's Windows operating system; otherwise, he told me, Microsoft would take any necessary action to drive Apple out of that business. At the time, I found his comments to be odd. Eighteen months later, after the events described below, I appreciate the prophetic import of his words.

SUMMARY OF TESTIMONY

6. Microsoft has acquired a monopoly of the market for desktop operating systems. Apple, which offers the only real alternative to Microsoft's Windows operating system, accounts for less than five percent of the market. Microsoft has leveraged its operating system monopoly to gain increasing and often dominant power in markets for critical application programs, power which Microsoft in turn uses to protect and extend its operating system monopoly. Microsoft has aggressively employed this anticompetitive strategy against Apple in an effort to control not only the market for Internet browsers, but the emerging market for technologies that create, send, receive and display multimedia content. If Microsoft succeeds in these efforts, it will drastically curtail consumer choice, stifle innovation, impede the development of superior technologies and extend its monopoly power into a profoundly important new area.

BACKGROUND

7. Apple's primary business is to develop and market computer systems. Apple has long been recognized as one of the most innovative companies in the computer industry. Over the past 20 years, Apple has been responsible for a number of the most important developments in the industry, including innovations relating to the graphical user interface that permits easy interaction between the user and the computer.

8. Apple develops the operating systems contained in the computers it manufactures. An operating system is the primary software that controls a computer. The operating system provides various basic services for a computer such as process management, user interaction, data management for the hard disk, network interfaces and control of peripheral devices such as printers and keyboards.

9. The basic services provided by the operating system are used by application programs such as Web browsing, spreadsheet or word processing programs. Because the operating system provides essential services for application programs, we often speak of an application program as "running on" a particular operating system. Information and commands are passed back and forth between the operating system and the application programs through application program interfaces ("APIs"). For example, a word processing application program can issue commands via the API to cause the operating system to open a file, print a document or provide some other basic service. The relationship between computer hardware, the operating system, APIs and application programs is illustrated in Attachment 1.

10. Apple's operating system for desktop computers is known as the Macintosh Operating System, or simply, Mac OS. The Mac OS 8.1 operating system is the only operating system that Apple is currently selling.[1] Apple, however, is preparing to ship Mac OS 8.5 (an upgrade to Mac OS 8.1), and the Mac OS X operating system is under development.

11. Apple directly distributes the Mac OS operating system (1) to end-user customers as a pre-installed operating system on computers manufactured by Apple, or (2) to distributors for retail sale to end-users who wish to upgrade their operating system to the latest version of Mac OS. In addition, Apple has licensed a number of value-added resellers ("VARs") to resell its computer systems. These value-added resellers have the right to make certain minor changes in the configuration of Apple computer systems to meet their customers' needs. Apple does not currently sell or

[1]Apple still makes available to customers who require it a version of the NeXT operating system, which Apple has discontinued.

license its Mac OS operating systems to any original equipment manufacturer ("OEM") for preinstallation on the OEM's computers.

12. Application programs must be developed so that they are compatible with the APIs of the underlying operating system. For example, Microsoft's popular word processing program, Word for Windows, will run on the Windows operating system; it cannot run on the Mac OS operating system. Microsoft, however, makes a different version of its Word program, Word for Macintosh, that will operate on the Apple operating system. This relationship is illustrated in Attachment 2.

13. Apple is committed to providing the end-user an operating system that is hospitable to the products of other software developers, including Apple 's main operating system competitor, Microsoft. For example, Apple developed its Mac OS 8 operating system so that it runs different browsers, including both the Netscape Navigator and the Microsoft Internet Explorer browsers. Apple bundles Navigator, Internet Explorer and America Online 3.0 with the Mac OS 8.1. When Apple announced the release of the Mac OS 8 operating system, Apple explained that including "both of the world's leading browser technologies [gives] customers choices for the best possible Internet experience."[2]

MICROSOFT HAS MONOPOLY POWER IN THE MARKET FOR DESKTOP OPERATING SYSTEMS

14. Apple competes in the sale of desktop computer systems with a large number of OEMs, all of which preinstall Windows operating systems on the computers they sell, known generally as Windows PCs. Apple's share of the desktop computer system market has declined in the past ten years from a high of 12.8 percent in 1988 to

[2] Apple Press Release dated May 13, 1997, Exhibit 2 to the deposition of Avadis Tevanian, Jr., taken July 16, 1998.

approximately 3.5 percent in 1997.[3] Apple recently released its iMac, a product that has been extremely well received by the public. Although Apple hopes and expects that its market share will increase with this new product, Apple does not expect to gain significant market share by the end of 1998. For the foreseeable future, Microsoft will maintain a market share in excess of 90 percent of the desktop operating system market, a dominance that will enable it to continue effectively to control both price and technologies in that market.

THE ECONOMIC RELATIONSHIP BETWEEN APPLICATION PROGRAMS AND OPERATING SYSTEMS

15. Microsoft's monopoly relies, in part, on a commercial symbiosis that exists between application programs and the computer operating systems on which those programs run. An application program is condemned to commercial failure if it will not operate reliably on the operating systems of a sufficiently large installed base of computer systems. Similarly, the commercial viability of an operating system is critically dependent on the availability of application programs -- including well-accepted, broadly-used application programs -- that are written for use on that system.

16. As Apple has learned through experience, when one company has monopoly power in the operating system market, the symbiosis between operating system and application programs creates significant barriers to the introduction and growth of competing operating systems. Independent software developers have no incentive to invest in the effort to adapt their programs to run on an alternative operating system that

[3]This market share data is found in two reports from Dataquest, an independent market research firm. These reports, both entitled "Unit Shipments By Product Type," are dated 1991 and April 20, 1998, respectively. The market share figures are based on Apple's percentage of the total world-wide annual sales volume of the number of desktop computer units sold during the calendar years 1988 and 1997.

has little or no market share, even when that alternative operating system offers significant, compelling advantages for consumers or developers.

BARRIERS TO COMPETITION IN THE OPERATING SYSTEM MARKET: APPLE'S EXPERIENCE WITH THE RHAPSODY OPERATING SYSTEM

17. Apple's experience with its Rhapsody operating system illustrates how difficult it is to gain acceptance and support for a new operating system in the face of Microsoft's monopoly of the operating system market. This experience shows that innovation and technical advantages may be insufficient to overcome the barriers imposed by Microsoft's domination of the operating system market.

18. In 1997, Apple purchased NeXT Software with the intent to use NeXT's technology to develop a new operating system. Apple's goal was to build a more robust, technologically superior operating system that would offer significant benefits over existing systems. The operating system would take advantage of NeXT's demonstrated advancements in the emerging field known as "object-oriented" programming. Among other things, these advancements would enable software writers to increase their productivity in developing application programs. The new operating system was code-named Rhapsody.

19. Because an operating system cannot be successful unless it has the ability to run a sufficient number of popular applications, Apple embarked on an ambitious campaign to convince independent software vendors ("ISVs") to adapt their programs to make use of Apple's new application program interfaces for Rhapsody. This campaign was not successful. Developers, including Microsoft, told Apple that they were concerned that Apple would not be able to obtain a critical mass of application programs

written to work with the new Rhapsody APIs and that customers, accordingly, would not buy computers containing the new operating system.

20. Apple eventually concluded that it would be unable to convince a sufficient number of ISVs to develop applications for the new APIs. Most professional developers are simply unwilling to develop application programs for a new platform in a world dominated by Microsoft's Windows operating system. Thus, Apple abandoned its plans to introduce Rhapsody as a new operating system.

MAINTAINING AND EXPANDING A MONOPOLY OVER THE OPERATING SYSTEM THROUGH CONTROL OF APPLICATION PROGRAMS

21. Apple has learned another lesson from its experiences with Microsoft: an operating system monopolist can use its power to advance its own application programs. If these applications then become popular and widely accepted, the monopolist can maintain and extend its power by withholding, or threatening to withhold, these programs from competing operating systems. When faced with such threats, a competing operating system supplier may be forced to agree to concessions that disadvantage its operating system or other application programs, thereby further increasing the monopolist's power.

22. As Microsoft's power in the operating system market has expanded, application programs owned or controlled by Microsoft have become dominant in many of the most important application program markets. Versions of some of these applications have been developed to run on the Mac OS operating system. As more fully described below, Microsoft has used its control of certain critical application programs to impede competition with Microsoft's popular Internet browser, Internet Explorer ("IE"). Once Microsoft dominates the market for Internet browsers, it will use

that power to extend its control over not only the operating system market, but also other emerging markets that rely on the Internet.

BROWSERS AND THE MAC OS OPERATING SYSTEM

23. As noted above, Apple bundles a number of application programs with the Mac OS operating system. Some of these programs are developed by Apple while others are developed by third parties. We include these application programs for the convenience of our customers, and sometimes for the benefit of our business partners.

24. An Internet browser is one example of the type of application program that we bundle with the Mac OS operating system. Our experience indicates that some customers prefer Netscape Navigator, others prefer Internet Explorer, while many users simply want the flexibility to use either browser. Because we believe that customers may want to use either or both of the leading Internet browsers, we bundle both Microsoft Internet Explorer and Netscape Navigator with Mac OS 8.1. (We also had previously bundled with Mac OS a now discontinued Internet browser developed by Apple entitled Cyberdog.)

25. The existence of these two popular browsers is a good example of how competition among application programs spurs innovation and creates significant advantages for customers. By bundling both browsers with the Mac OS operating system, Apple offers consumers the freedom to choose among the features offered by each program and, in return, Apple benefits from the brand-recognition of the two preeminent browser creators.

26. The fact that Internet Explorer and Navigator are bundled with the Mac OS does not make them part of the operating system. The Mac OS operating system will continue to function if either or both of these browsers are removed. As

noted above, we permit value-added resellers ("VARs") the flexibility to reconfigure our systems to meet their direct customers' needs. We provide VARs the flexibility to remove browsers or other applications, and to reconfigure the Macintosh desktop to address what they perceive to be their customers' desires.

27. Today, with the growth in popularity of the Internet, browsers are among the most widely used application programs. However, as the experience recounted below demonstrates, Microsoft has used the market power that flows from its operating system monopoly to give it a significant advantage over Netscape in the market for users of Apple computers.

MICROSOFT USED THE THREAT OF STOPPING ITS SUPPORT FOR A CRITICAL APPLICATION TO PRESSURE APPLE TO AGREE TO GIVE A SIGNIFICANT ADVANTAGE TO INTERNET EXPLORER

28. In 1996, Apple became involved in discussions with Microsoft on a number of issues, including two important disputes. First, Apple advised Microsoft that it was infringing Apple's patents. Second, Microsoft was concerned about Apple's arrangements with Netscape relating to distribution of Netscape's Navigator browser. Microsoft ultimately succeeded in resolving both disputes by threatening to withdraw its support from an essential application that ran on the Mac OS.

29. The first dispute began when Apple put Microsoft on notice in 1996 that its Windows operating systems and Internet Explorer infringed Apple's patents. (TX:1101)[4] Extensive licensing negotiations started in late 1996 and extended into 1997. (TX:5288)

30. Concurrent with the ongoing patent dispute, in late 1996 or early 1997, Apple's then-CEO, Gilbert F. Amelio, and Microsoft's CEO, Bill Gates, reached an oral

[4](TX:A) refers to the Trial Exibits, where A is the Trial Exhibit number.

agreement for Apple to bundle Microsoft's Internet Explorer with the Mac OS operating system. In return, Microsoft agreed to show public support for Apple's acquisition of NeXT Software. This was important to Apple because Microsoft is the largest supplier of application programs for the Mac OS, and its support would be seen by other software developers as a significant endorsement of the acquisition. (TX:573)

31. Beginning with the Mac OS 8.0 operating system, Apple implemented the agreement reached between Mr. Gates and Mr. Amelio by placing both Microsoft Internet Explorer and Netscape Navigator into a "folder." Netscape Navigator, however, was the "default" browser on Mac OS 8.0; that is, if the user simply "clicked" on the browser icon on the Mac OS desktop and made no other selections, the Netscape Navigator would run by default.

32. When Mr. Gates learned that Internet Explorer was not planned to be the default browser on Mac OS 8.0, he became very upset, claiming that this arrangement was a violation of the agreement that he had reached with Mr. Amelio.[5]

33. In the spring of 1997, Microsoft insisted on merging the disputes over the patents, the browsers and other aspects of the companies' relationship to seek a comprehensive solution. (TX:570; TX:1046) Many Apple executives, however, were pessimistic about achieving an equitable agreement with Microsoft. In fact, certain individuals within Apple's management felt that Apple should aggressively pursue patent infringement issues against Microsoft.

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[5]In a letter from Mr. Amelio to Mr. Gates, dated July 3, 1997, Mr. Amelio states, "I'd like to comment on the inclusion of Internet Explorer with our release of Mac OS 8. I know this is a source of great irritation to you. However, at this point, our people feel we have complied with the agreement we made in January. . . . We were careful to explain to Brad Silverberg [at Microsoft] the preexisting agreement with Netscape." (TX:1053)

34. In mid-May 1997, Microsoft's negotiators told Apple's negotiating team that Microsoft would remove its support for Microsoft application programs for the Mac OS operating system if Apple refused to resolve the disputes concerning the patents, the browsers and other aspects of the companies' relationship on terms acceptable to Microsoft. Microsoft's threat to withdraw support for its applications that run on the Mac OS operating system, especially Microsoft Office for Macintosh, was extremely disturbing. Microsoft Office is a so-called "office productivity suite" that includes word processor, spreadsheet and presentation programs. Based on published reports and information related by Apple's marketing executives, I understand that Microsoft Office has greater than a 90 percent share of the office productivity suite applications market. (TX:1036)

35. Microsoft produces a version of Microsoft Office, called Microsoft Office for Macintosh, that will run on the Mac OS. Because Microsoft Office completely dominates the market for office productivity suites, it is critical to the commercial viability of the Apple Mac OS to have a version of Microsoft Office that can run on the Mac OS operating system. Withdrawal of Microsoft's support for its Microsoft Office for Macintosh program would have a devastating effect on the Mac OS. This not only would be due to the loss of the specific application, but also because it would prompt independent software vendors to reassess their continued investment in developing application programs for Apple's operating system.

36. Microsoft was aware that Apple desperately needed to maintain support for Microsoft Office for Macintosh.[6] In addition, there was a strong demand in

[6]In a letter dated July 3, 1997, to Mr. Gates, Mr. Amelio stated, "Our surveys tell us that in the enterprise market segment, for example, a very high percentage of our end customers use Microsoft Office. . . ." (TX:1053)

the market for Microsoft Office 98 for Macintosh based on the reports of its development. Because the prior Office for Macintosh version was poor in terms of performance and stability, Apple computer users were especially anxious to obtain a new and improved version of Microsoft Office.

37. By June 1997, Microsoft had substantially completed the development work on Microsoft Office 98 and, in fact, had shown a preliminary "Beta" version of the product to some Apple personnel. Although Microsoft had made a substantial investment getting Office 98 for Macintosh ready for market, it was willing to risk an outright loss of that entire investment to force Apple to terms.

38. The pressures exerted by Microsoft compelled Apple to resolve the dispute on terms that gave significant advantages to Microsoft's Internet Explorer. On August 5, 1997, Apple agreed to a Technology Agreement with Microsoft that included the following basic elements. First, Apple agreed to bundle Internet Explorer on all Macintosh computers and Mac OS operating systems for five years. Apple also agreed to make the Internet Explorer the default browser on all Mac OS systems. Although Apple can bundle other browser programs with the Mac OS, it is prohibited from promoting any browser other than Internet Explorer. The agreement states that all other browsers must be stored inside a folder; this means that Apple cannot allow any browser that competes with Internet Explorer to appear on the desktop. The Technology Agreement also gives Microsoft the right of first refusal to develop the default browser for any new operating system Apple develops during the term of the agreement.[7]

39. In return, Microsoft agreed to continue development of Office for Mac for five years, subject to Macintosh meeting certain sales minimums. Microsoft also

[7] *See* Technology Agreement between Apple and Microsoft, dated August 5, 1997. (TX:1167)

agreed to provide a browser to Apple for five years without charge. Finally, Apple and Microsoft agreed to cooperate in efforts related to Java technologies.[8]

40. Concurrent with the signing of the Technology Agreement, Apple and Microsoft entered into two other agreements. The most significant terms of these agreements included the following: (1) Microsoft agreed to make a $150 million investment in Apple and pay certain other undisclosed amounts to Apple[9], and (2) the parties agreed to cross-license their patents and settle outstanding patent disputes.[10]

41. The Technology Agreement gives Microsoft significant advantages in its efforts to defeat Netscape Navigator and gain total control of the browser market. Apple users have been very important to Netscape. We had learned through conversations with Netscape that approximately 25 percent of the visitors to Netscape's Website were Macintosh users. After we entered into the Technology Agreement, however, Apple was prohibited from promoting Netscape Navigator. While Navigator could still be bundled with the Mac OS operating system, Navigator could not appear on the desktop where it could be most readily used by a consumer. Our experience, however, shows that customers seldom reconfigure their systems to change the default browser. Making Microsoft's Internet Explorer the default browser on the Mac OS did not confer any substantive technical benefit on users, but it would help Internet Explorer to become the most commonly used browser among Mac customers.

42. If Microsoft had not exercised its monopoly power in the office application market by threatening to stop supporting Office for Macintosh, Apple would

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[8] Id.

[9] *See* Preferred Stock Purchase Agreement between Apple and Microsoft, dated August 5, 1997. (TX:583)

[10] *See* Patent Cross License Agreement between Apple and Microsoft, dated August 5, 1997. (TX:584)

not have resolved the disputes on the terms outlined above. Many individuals within Apple were dissatisfied with Apple having agreed to Microsoft's terms regarding Internet Explorer. They predicted that the deal would have an adverse effect on competition in the browser market and, ultimately, in the operating systems market.

43. Despite the opposition of some within the company, Apple agreed to the deal with Microsoft because (1) other aspects of the agreement, i.e., the continued development of Office for Macintosh, were too important to Apple's future to forego; (2) by the time the deal was concluded there was a consensus that Internet Explorer had achieved rough technological parity with Navigator; (3) it appeared that because Microsoft would use its monopoly in the operating system market to favor its Internet Explorer, Microsoft would most likely win the browser war anyway; (4) Microsoft's agreement to provide Internet Explorer for five years without charge offered some limited protection to Apple in the event that Microsoft drove Netscape out of the browser business and left Apple without a browser alternative; and (5) the $150 million investment was a crucial show of support for Apple from the largest, most important source of application programs for the Mac OS.

MICROSOFT'S ATTEMPTS TO CONTROL MULTIMEDIA PLATFORMS: AN OVERVIEW

44. If Microsoft succeeds in driving Netscape out of the browser business, it will gain control of another critical application. Such control, however, has more far-reaching consequences than mere domination of a single application market. Indeed, the control of such Internet-related technologies is crucial to the maintenance of Microsoft's operating system monopoly.

45. Internet-related technologies such as browsers are important in the development of future software platforms which could operate "on top" of different operating systems. These software platforms could be used to run various applications such as programs that display, edit, manipulate and transmit various types of content. Importantly, applications written for such platforms would be able to run on any computer that has the software platform, regardless of the underlying operating system.

46. The development and widespread adoption of such software platforms would seriously threaten Microsoft's operating system monopoly. Companies that create programs that run on such software platforms would not have to adapt their programs to run on different operating systems. Operating system competitors, such as Apple, would not have to overcome the resistance of ISVs who refuse to invest in adapting their programs to run on an operating system that had little or no market share. As long as the competing operating systems could support the software platform, the ISV's programs would run.

47. Apple has developed a promising new product called QuickTime that can serve as such a software platform for multimedia content. As detailed below, Microsoft has used various anticompetitive actions to thwart the growth of Quicktime.

APPLE'S QUICKTIME MULTIMEDIA SOFTWARE

48. A student preparing a report on the civil rights movement uses her computer to search through an encyclopedia stored on a CD-ROM for an article on Dr. Martin Luther King, Jr. She is able not only to read about Dr. King, but to view and listen to a video clip of his famous "I have a Dream" speech. A man preparing for a trip overseas accesses an Internet Web site for travel information and takes a "virtual" tour of the Louvre, stopping to "zoom in" on pictures of interest and listen to a brief account of

the artist's life. A realtor takes a client on a virtual tour of a house, manipulating images to show different, three dimensional views of each room.

49. Each user is taking advantage of the multimedia capacity of modern computers that can combine images with words, music or other sounds to create "virtual" experiences. Apple has been a pioneer in this field through its QuickTime technology.

50. QuickTime is Apple's patented software architecture for creating, editing, publishing and playing back multimedia content on both Macintosh and Windows computers.[11] Among other things, QuickTime allows for the creation and playback of a broad range of media, from simple audio and still images to music, video and even virtual reality and 3D.

51. In developing QuickTime, Apple has had as one of its goals the creation of a powerful platform for dynamic media that would enable that media to be created and played back on virtually any computer system. The same QuickTime file can be played back on computers that use the Mac OS, Windows 95, Windows 98 or Windows NT systems. Its versatility frees a media producer using QuickTime to sell its products to the broadest possible audience without spending additional time or money creating different versions of the product for different operating systems.

52. An extraordinarily diverse number of software content products use QuickTime for playback of multimedia content both from the Internet and from local sources, such as a CD-ROM. For example, QuickTime is used in computer games, encyclopedias, news clips, movie clips and sound clips that can be accessed over the Internet or some other network. QuickTime even has a virtual reality capability, enabling the creation and playback of "interactive photographs" - both 360° panoramas

[11]Microsoft acquired a license to Apple's QuickTime patents as a result of the 1997 negotiations.

and three-dimensional objects that can be rotated on the screen. By using a mouse and keyboard – with no special gloves, goggles, or other equipment – users can explore landscapes and interiors and view objects from all sides.

53. QuickTime brings products, museums, cities, scenic areas and computer-generated scenes alive through Web pages and CD-ROMs. Tens of thousands of Web sites and CD-ROM titles have already been enhanced with QuickTime VR technology, including ones from Boeing, BMW, Century 21 Real Estate, CNN, Ferrari and IBM. Even Microsoft's Encarta Encyclopedia has used QuickTime to replay certain multimedia content contained in the encyclopedia.

54. QuickTime was originally developed for use on the Macintosh operating system. It was first released for the Macintosh in 1991 and then for Windows in 1992. QuickTime is now a mature, well-recognized and universally-utilized product in a substantial installed customer base. An independent survey revealed that Apple's QuickTime was in the top ten most widely-owned applications programs. (TX:1080)

55. We estimate at Apple that roughly 50 million desktop computers have QuickTime already installed. With the Internet revolution, the base of QuickTime-installed computers should grow dramatically over the next two years in a truly competitive market, given QuickTime's superiority as a product and the current demand from original equipment manufacturers for multimedia capabilities.

56. Years ago, Microsoft recognized that QuickTime was superior to its multimedia product offering. Regrettably, Microsoft has taken steps to impede the adoption and use of QuickTime 3.0 by additional users. These steps include causing QuickTime to fail to work for certain content in the Windows environment and the

generation of misleading error messages. These anticompetitive actions are described in detail in the testimony that follows.

A TECHNOLOGY OVERVIEW OF QUICKTIME

57. QuickTime includes a special set of application program interfaces. As discussed above in paragraph 9, an API allows an application to "talk to" the operating system. QuickTime APIs enable software application program developers to manipulate data in a QuickTime file that can in turn interact directly with the computer operating system.

58. In order to draw upon QuickTime's capabilities, a consumer needs not only the QuickTime APIs, but also a QuickTime "viewer" or "player." This player can be a "plug-in" to a consumer's browser which enables the consumer to run QuickTime movies and other content from within the browser. When used as a plug-in, the QuickTime player extends the Internet browser's functionality by enabling it to integrate the multimedia capabilities that QuickTime makes possible. This has the effect of extending the Internet browser's architecture to include the QuickTime functionality.

59. Because we have created QuickTime for both Windows and Macintosh computers, developers can create a single version of a content product that will run on both Macintosh and Windows, without the additional expense of "porting" the product to different operating systems. This is referred to in the industry as "cross-platform" capability. QuickTime is currently the most popular multimedia technology used by creators of multimedia content for computers, in part because of this capability. This feature of QuickTime is illustrated in Attachment 3.

60. Three other aspects of QuickTime are relevant to the storage and transmission of multimedia content: (1) the "file format" in which data for multimedia